



Title of the Invention – The Voltage Dosimeter –
System and method for
supplying variable voltage
to an electric circuit.

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18. A system for maintaining a desired negative electrode voltage level of a voltage producing source within a first predetermined range of values having an upper limit and a lower limit so as to control the positive electrode voltage of the voltage producing source and connected circuits to eliminate the necessity for constant maximum voltage production, the method being adapted for use with a Voltage Dosimeter including an electronic control unit (ECU) having memory, two voltmeters connected to each electrode for measuring current voltage at each electrode, a voltage delivery apparatus controlled by the ECU for delivering a selected voltage producing dose to the positive electrode and to the circuits, the voltage delivery apparatus having a plurality of sequential voltage producing doses ranging from a first voltage producing dose to a second voltage producing dose, the method comprising:

delivering the second voltage producing dose to the positive electrode and to the circuits while repeatedly sequencing through the plurality of sequential voltage producing doses beginning with the first voltage producing dose and proceeding to an adjacent voltage producing dose in the sequence after a predetermined time interval has elapsed until the current negative electrode voltage level of the voltage delivery apparatus attains the desired voltage level at which point a corresponding voltage

producing dose is selected from the plurality of sequential voltage producing doses;

delivering the selected voltage producing dose so as to maintain the negative electrode voltage level in its desired range.

19. The method of claim 18 wherein the current circulation time is determined by:

means for storing a predetermined number of base state exit voltage values in memory; and

means for determining a predetermined sequence of base state levels.

20. The method of claim 18 wherein the reaction time is determined by logic flow charts.

21. The method of claim 18 in which a plurality of sequential positive electrode voltage doses are generated in fuel cells, steam reactors, fission reactors, fusion reactors, solar cells, mechanical/magnetic voltage generators, and fossil fuel burning reactors.

22. The method of claim 18 wherein a plurality of sequential positive electrode voltage doses are generated by steam.

23. The method of claim 18 wherein the plurality of positive electrode voltage doses are connected by logical switches.

24. The method of claim 18 wherein a predetermined negative electrode voltage level for a predetermined amount of time produces a predetermined voltage producing and positive electrode voltage dose.

25. The method of claim 18 wherein a first closing of an electric switch produces a first battery discharge and a first negative electrode voltage level in a fuel cell.

26. The method of claim 18 wherein the operating negative electrode voltage range varies with application.

27. The method of claim 18 wherein a first closing of an electric switch produces a first battery discharge and negative electrode voltage.

28. A method for maintaining a desired negative electrode voltage of a fuel cell within a first predetermined range of values having an upper limit and a lower limit so as to control the positive electrode voltage of the fuel cell and connected circuits to eliminate the necessity for constant maximal voltage production, the method being adapted for use with a Voltage Dosimeter including an electronic control unit (ECU) having memory, two voltmeters connected to each electrode for measuring current voltage at each electrode, a fuel cell controlled by the ECU for delivering selected reactive gas flow rates to the fuel cell, the fuel cell having a plurality of sequential

reactive gas flow rates ranging from a first reactive gas flow rate to a second reactive gas flow rate, the method comprising:

delivering the second reactive gas flow rate to the fuel cell while repeatedly sequencing through the plurality of sequential reactive gas flow rates beginning with the first reactive gas flow rate and proceeding to an adjacent reactive gas flow rate in the sequence after a predetermined time interval has elapsed until the current negative electrode voltage level of the fuel cell attains the desired voltage level at which point a corresponding reactive gas flow rate is selected from a plurality of reactive gas flow rates.

delivering the selected reactive gas flow rate to the fuel cell so as to maintain the negative electrode voltage in the desired range.

29. The method of claim 28 wherein the current circulation time is determined by:

means for storing a predetermined number of base states;
means for storing positive electrode voltage dose values in memory;
means for determining a predetermined sequence of base states;
means for determining a predetermined sequence of positive electrode voltage doses.

30. The method of claim 28 wherein the reaction time is determined by logic flow charts.

31. The method of claim 28 wherein a predetermined negative electrode voltage level for a predetermined amount of time produces a predetermined reactive gas flow rate and positive electrode voltage dose.
32. The method of claim 28 wherein a first closing of an electric switch produces a first battery discharge and a negative electrode voltage level.
33. The method of claim 28 wherein the operating negative electrode voltage level is determined by direct observation.
34. The method of claim 28 wherein the plurality of positive electrode voltage doses are connected by switches controlled by logic.

ABSTRACT OF DISCLOSURE

038 The Voltage Dosimeter is a method and apparatus that automatically controls voltage producing sources to deliver varying voltage to reduce the need for constant voltage production and it provides switching ability between devices by maintaining the negative electrode voltage of voltage producing sources in a predetermined range. In the preferred embodiment a maximal reactive gas flow rate produces the first positive electrode voltage dosage of a fuel cell, then positive electrode voltage doses repeatedly sequence at predetermined intervals from smallest to largest until the current negative electrode voltage is in the desired range. Then the reactive gas flow rate and positive electrode voltage dosage are selected. The method continues with the delivery of the selected reactive gas flow rate and positive

electrode voltage dose by the voltage producing source so as to maintain the negative electrode voltage in the desired range.

There are no arguments. The two independent Claims and fifteen dependent Claims are submitted as a less preferred characterization of the device, but one that was used in the oxygenator listed in the references. The Abstract of Disclosure has not changed, but is included for the purpose of orientation.